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(54) Method and circuit for demultiplexing an optical signal

(57) A system and method are disclosed for demultiplexing closely spaced channels carrying optically encoded data. A composite optical signal having data channels corresponding to centre wavelengths λ1, λ2, λ3, λ4, ... λn are separated into two composite optical signals of first of which comprises data channels corresponding to centre wavelengths λ1, λ3, ... λn and a second which comprises data channels corresponding to centre wavelenghts λ2, λ4, ... λn-1, wherein adjacent channels centre wavelengths are separated from one another by a distance "d". A periodic multi-cavity Fabry-Perôt etalon having a free spectral range of "2d" is coupled to a circulator for launching an input beam. The first of the two composite optical signals carrying channels 1, 3, ... n is reflected from the input port of the etalon and the second of the of the two optical signals carrying channels 2, 4, .. n-1 is transmitted through the etalon. After the two signals are separated, further separation can be achieved by using conventional dichroic filters.

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